

Fig. 1

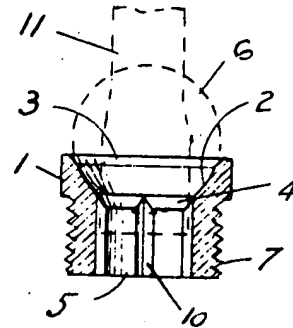


Fig. 2

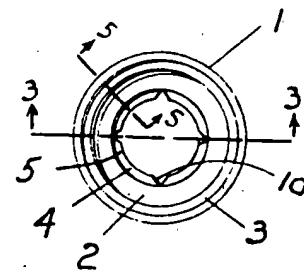


Fig. 3

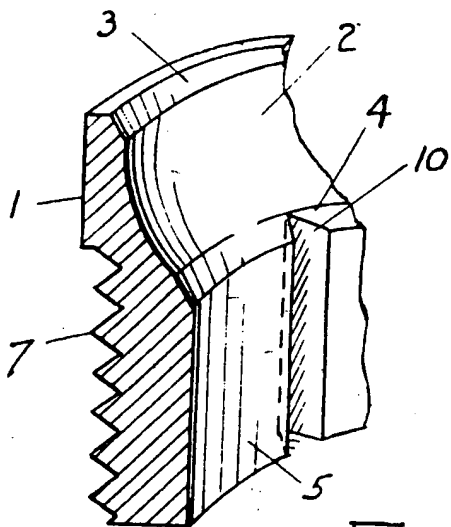


Fig. 5

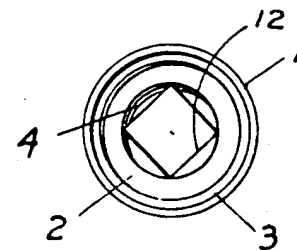


Fig. 4

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# CANADA

## THE PATENT OFFICE

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### Seat for Ball Faucets and Valves

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My invention relates to faucets particularly with reference to the seat of a faucet, and the object of my invention is to provide a holed or apertured seat especially designed to accommodate a rounded or spheroidal shaped ball valve, and having the perimeter of the central flow aperture so shaped that a screwdriver, or other flat implement, may be inserted in this shaped aperture as a means of fitting and removing by screwing and unscrewing respectively the threaded seat element into or out from the faucet diaphragm.

The advantage of this specially shaped aperture is that it allows the tool to be inserted thereinto the faucet down the stem opening without having to remove the faucet from its fitted position, and in a most convenient manner simplifying the removal of a worn seat and the replacement by a new one, and in a minimum of time compared with other methods of seat replacement, and it is easier and quicker to accomplish this replacement than it would be to hand grind the seat, besides resulting in a much better and more efficient job.

In describing this invention reference will be made throughout the specification to the attached drawings, in which:

Fig. 1 shows a valve seat in place in a faucet to an oversize scale.

Fig. 2 is a cross section of the seat on line 3—3 in Fig. 3.

Fig. 3 is a plan view of the seat with notched flow aperture.

Fig. 4 is a plan view of the seat with rectangular aperture.

Fig. 5 is a magnified part view in sectional perspective on line 5—5 Fig. 3.

In the drawings:

1 represents the upper circular wall of this seat body which projects above the diaphragm of the faucet, and 2 is the circularly convex faced ball-contacting seat, the upper edge of this face being outwardly chamfered as at 3 to assure positive guidance of the ball into its recessed seat. The valve seat portion 2 of this seat element extends downwardly and inwardly in a beveled face 4 circularly concentric with the convex faced seat portion 2. The lower portion of the said seat element adjacently below said beveled face 4 is centrally apertured at 5, the flow through which apertured passageway is governed and controlled by a spherically or spheroidally shaped ball valve 6 as

adjusted relatively with respect to its seat 2.

The outer face of the seat element below the said circular wall 1 is threaded at 7 for screwable insertion into the apertured diaphragm 8 of the faucet 9.

The flow aperture 5 is so shaped cross sectionally as to have diametrically positioned circumferentially disposed notches 10 therearound into which said notches, cut into the body of the seat element, a screwdriver or any flat or specially shaped tool 11 may conveniently be placed as a means of screwing or unscrewing the seat element into or out of the faucet diaphragm 8. The four notches shown in Fig. 3 illustrate a typical arrangement of same. An aperture squared out as at 12 seen in Fig. 4, or one having any plurality of cornered notches would answer the same purpose to accommodate a squared or a flat tool respectively for manipulating the fitting or removing of the seat element.

Having regard to the foregoing disclosure, the patent of which this specification forms part confers, subject to the conditions prescribed in The Patent Act, 1935, the exclusive right, privilege and liberty of making, constructing, using and vending to others to be used, the invention as defined in claims submitted by the patentee as follows:

1. A threaded faucet seat of the type described, having a central aperture bevel-faced to receive the ball of a ball valve, and having the top rim of said seat chamfered inwardly, and having a square shaped flow passageway in said seat below said central aperture for the reception of an inserted tool to facilitate by manipulation seat removal and replacement.

2. A replaceable valve seat for ball faucets and valves outwardly threaded for screwable fitment into the diaphragm of said faucet or valve, and having a central aperture in said seat shaped cornerwise to receive a tool for fitting and for removing the said seat.

3. In a ball valve type faucet, a seat for ball reception threaded for screwable insertion into the diaphragm aperture of the faucet, and having a flow aperture therein notched for the reception of a flat tool for fitting the said seat into place in the faucet and for the removal of same therefrom.

4. In combination, a removable valve seat member for ball faucets and valves; threads on the

outer face of said seat for screwable insertion of said seat member into a faucet or valve of the ball type; a beveled inner face for ball reception; a chamfered rim to prevent ball damage; and a concentric flow aperture having shaped notches therearound to receive a flat tool for turning said seat.

5. In combination, a screwably removable circular valve seat element for ball faucets or valves having a seat face convex in curvature to accommodate a spherical or spheroidal ball valve, and having its top rim chamfered outwardly from its centre; a flow aperture in said seat element below the said convex seat face of same and separated therefrom by an inwardly beveled circular

face portion concentric with said seat element; and notches spaced peripherally around said beveled face portion and cut into the body of the seat element for the reception of a tool to screwably fit or to remove said seat element into or from the threaded diaphragm of a ball faucet or valve.